

REMARKS

The application has been reviewed in light of the Final Office Action mailed September 5, 2003 and Advisory Action mailed January 20, 2004. Claims 17-29 were pending at the time of the office action. Claims 17-29 were rejected. Applicant has amended Claim 17 and added new Claims 30-36. Applicant respectfully requests reconsideration and favorable action in this case. **Please do not enter the amendment presented in the Response to Final Office Action filed January 5, 2004. The amendments listed in this Request for Continued Examination include all the desired changes previously presented in the after final amendment filed January 5, 2004.**

Rejections under 35 U.S.C. §103

Claims 17, 20, 21 and 23-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,869,744 issued to Norio Suzuki et al. ("Suzuki et al.") in view of U.S. Patent 4,963,246 issued to Yoyohei Nakajima et al. ("Nakajima et al."). Applicant respectfully traverses and submits that Claims 20, 21 and 23-29 and new Claims 30-36 are patentable over Suzuki et al. in view of Nakajima et al.

In order to establish a prima facie case of obviousness, the references cited by the Examiner must disclose all claimed limitations. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Furthermore, according to § 2143 of the Manual of Patent Examining Procedure, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991).

Suzuki et al. discloses "an oxygen concentration-detecting device [that] detects the concentration of oxygen present in exhaust gases emitted from an internal combustion engine." (Abstract)

Nakajima et al. discloses "an oxygen concentration-sensing device [that] has an oxygen concentration-sensing element which senses the concentration of oxygen contained in a gas, and a heater which heats the sensing element." (Abstract)

Applicant's amended Claim 17 calls for various features including, among others, an "interface is a plug connector having a housing, wherein the evaluating unit is integrated into the housing."

Applicant's new Claim 30 calls for various features including, among others, an "evaluating unit operable to convert the data from the probe into a digital signal such that the number of conductors on the interface is reduced, wherein the interface comprises a plug connector having a housing such that the evaluating unit is integrated within the housing."

Suzuki et al. or Nakajima et al. cannot anticipate Applicant's Claim 17 or Claim 30 because Suzuki et al. or Nakajima et al. does not teach, suggest or disclose all of the elements recited by amended Claim 17 and new Claim 30. For example, Suzuki et al. and Nakajima et al. fail to teach, disclose or suggest an "interface is a plug connector having a housing, wherein the evaluating unit is integrated into the housing," as recited by amended Claim 17. Additionally, Suzuki et al. and Nakajima et al. fail to teach, disclose or an "evaluating unit operable to convert the data from the probe into a digital signal such that the number of conductors on the interface is reduced, wherein the interface comprises a plug connector having a housing such that the evaluating unit is integrated within the housing," as recited by new Claim 30. Additionally, Applicant asserts that there is no motivation to combine the control device of Suzuki et al. with coupler of Nakajima et al.

The Examiner has stated that "Suzuki et al. discloses the claimed invention except for the plug connector." (See Paper No. 21 page 2) With regard to this statement, Applicant respectfully disagrees with the Examiner. Applicant further states that, in addition to other features, Applicant's amended Claim 1 further includes a nitrogen oxide sensor.

Further, the Examiner has stated that "Nakajima et al teaches that it is known to provide a sensor interface with housing having a plug connector" and that "[i]t would have been obvious to one having ordinary skill in the art at the time of the invention was made to provide the control device 25 of Suzuki et al with a plug connector in the housing ... to facilitate replacement. (See Paper No. 21 page 2) With regard to this statement, Applicant respectfully disagrees. Applicant asserts that there is no motivation to combine a coupler

with a compensating resistance with a control device. In fact, Nakajima et al. teaches that the control circuit in the ECU "comprises a microcomputer" that is "connected to various engine parameter sensors, (not shown) such as an engine rotational speed (N_e) sensor, an intake absolute pressure (P_{BA}) sensor, and an engine coolant temperature (T_w) sensor." (See Nakajima et al. Col. 17, line 52-62) As such, there is no teaching, suggestion or motivation to relocate the control circuit into the coupler.

Therefore, Applicant respectfully submits that neither Suzuki et al. or Nakajima et al. alone or in combination do not anticipate amended Claim 17 or new Claim 30 and, as such, Claims 17 and 30 are patentable over Suzuki et al. in view of Nakajima et al.

Claims 20, 21 and 23-29 directly or indirectly depend from and provide further patentable limitations to independent Claim 17, as amended. New Claims 31 - 36 directly or indirectly depend from and provide further patentable limitations to new Claim 30. Because amended Claim 17 and new Claim 30 are deemed allowable, Claims 20, 21, 23-29 and 31 - 36 are allowable. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection and allow Claims 20, 21 and 23-29 and allow new Claims 31 - 36.

Claim 18 was rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki et al. in view of Nakajima et al. as applied to Claims 17, 20, 21, and 23-29 above, and further in view of U.S. Patent 4,668,873 issued to Masahiro Ohba et al. ("Ohba et al."). Applicant respectfully traverses and submits that Claim 18 is patentable over Suzuki et al. in view of Nakajima et al. and further in view of Ohba et al.

Claim 18 directly or indirectly depend from and provide further patentable limitations to independent Claim 17, as amended. Because Claim 17 is deemed allowable, Claim 18 is allowable. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection and allow Claim 18.

Claim 19 was rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki et al. in view of Nakajima et al. as applied to Claims 17, 20, 21, and 23-29 above, and further in view of U.S. Patent 5,161,087 issued to Jerome A. Frankeny et al. ("Frankeny et al."). Applicant respectfully traverses and submits that Claim 19 is patentable over Suzuki et al. in view of Nakajima et al. and further in view of Frankeny et al.

Claim 19 directly or indirectly depend from and provide further patentable limitations to independent Claim 17, as amended. Because Claim 17 is deemed allowable, Claim 19 is allowable. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection and allow Claim 19.

Claim 22 was rejected under 35 U.S.C. §103(a) as being unpatentable over Suzuki et al. in view of Nakajima et al. as applied to Claims 17, 20, 21, and 23-29 above, and further in view of U.S. Patent 5,024,534 issued to Yoshihiro Matsubara et al. ("Matsubara et al."). Applicant respectfully traverses and submits that Claim 22 is patentable over Suzuki et al. in view of Nakajima et al. and further in view of Ohba et al.

Claim 22 directly or indirectly depend from and provide further patentable limitations to independent Claim 17, as amended. Because Claim 17 is deemed allowable, Claim 22 is allowable. Therefore, Applicant respectfully requests the Examiner to withdraw the rejection and allow Claim 22.

Notice of Reference Cited in Advisory Action

The examiner has cited that adding a limitation of a nitrogen oxide sensor in Claim 17 would raise a new issue in that new grounds of rejection would be based on U.S. Patent 6,254,750 issued to Patrick et. al. (Patrick et al.). Applicant traverses this new ground of rejection and submits that amended Claim 17 is patentable over Patrick et al.

Patrick et al. discloses "a modified universal exhaust gas oxygen sensor ... [that] can be used to measure the concentration of a variety of components of a gaseous fuel emission including CO, CO₂, O₂, H₂, and H₂O." (Abstract)

Applicant's amended Claim 17 calls for various features including among others an "interface is a plug connector having a housing, wherein the evaluating unit is integrated into the housing."

Applicant asserts that Patrick et al. alone or in combination does not disclose all of the claimed features of Claim 1. For example, Patrick et al. does not teach, disclose or suggest an "interface is a plug connector having a housing, wherein the evaluating unit is integrated into the housing," as recited by amended Claim 17. Additionally, the Examiner has stated that "the connector" of Patrick et al. has "a memory device [that] is built into the sensor ... [in

which, the memory device has logic to calibrate the sensor ..., which implies digitization of data." With regard to this statement, Applicant respectfully disagrees. In fact, Patrick et al. does not teach, disclose or suggest that the memory device converts or otherwise digitizes the data from the sensor or probe.

Therefore, Applicant respectfully submits that neither Patrick et al. alone or in combination does not anticipate or make obvious any of Applicant's claims, therefore, Claims 17 and 30 are patentable over Patrick et al.

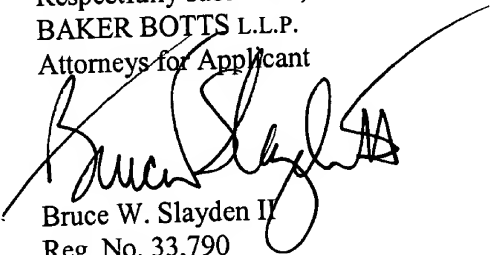
CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of the claims as amended.

Applicant encloses a Request for Continued Examination Transmittal under 37 C.F.R. 1.17(e) and a Petition for Extension of Time under 37 C.F.R. 1.136(a) along with one check in the amount of \$1,720.00 for filing fees.

Applicant believes no further fee is due for this response, however, if any additional fees are due, the Commissioner is hereby authorized to charge any necessary fees to Deposit Account No. 50-2148 of Baker Botts L.L.P.

Respectfully submitted,
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Date: March 5, 2004

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Enclosures:

1. Change of Correspondence Address.
2. Request for Continued Examination Transmittal Form.
3. Petition for Extension of Time.
4. Check in the amount of \$1,720.00 for filing fees for RCE and Three-Month Extension of Time.